Cost of Capital

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Cost of Capital Concept

- Cost of capital is defined as the minimum rate of return that is necessary to attract capital to an investment.
- Cost of capital is a forward looking concept.
- Cost of capital is an opportunity cost. That is, it is the cost of alternative investments that were forgone.
- Cost of capital is determined in the markets. It is demand for and supply of capital that determines the price for capital.
- The cost of capital depends on the risk of an investment.
- Goal is to allow the utility to earn a rate of return which is fair and consistent with its investment in plant and equipment.

Types of Return

- Authorized: The rate of return regulators have determined to be the company's overall cost of capital, including the rate of return investors require on common equity in a rate proceeding
- Required: What investors desire as a return for investing their money in the common stock of a company
- Expected: What investors believe the investment will return
- Actual: What the books of account reflect at the end of the accounting cycle

Capital Structure

- The overall rate of return of a utility company depends on the capital structure that is used to finance its investment.
- The permanent capital structure or capitalization of a firm is represented by long-term debt, preferred stock and common equity.

Capital Structure (Cont'd)

- The correct mix of debt and equity in a utility's capitalization is important because debt is cheaper than equity. The tax advantage of debt makes equity about twice as expensive as debt.

Long-term Goal for Permanent Capital Structure

- Debt: 50%
- Preferred Stock: 0-5%
- Common Equity: 45-50%

Ratemaking Capital Structure

Components

Long-term Debt
Preferred Stock
Common Equity
Short-term Debt
Customer Deposits
Other Interest Bearing Items
Deferred Income Taxes
Deferred Federal Income Taxes
Job Development Investment Tax Credits

Capital Costs

- To determine the cost of debt we look at the interest rate or coupon rate that the utility paid to finance that debt.
- Preferred stock carries a fixed commitment and its cost is calculated the same way as debt.
- Determining the cost of common equity is more complex than determining the cost of debt. Since a stockholder is not guaranteed a cash flow or a return, there is higher risk involved in holding the stock of a company.

Common Equity Cost Rate

- Determining a company's required rate of return on its common equity is defined by a general equation.
- Req'd Rate of Return = Risk-free Rate + Risk Premium
  - Risk-free Rate: Real rate of return on riskless security + inflation.
  - Risk Premium is composed of:

Interest Rate Risk Premium	Market Risk Premium
Business Risk Premium	Regulatory Risk Premium
Financial Risk Premium	Liquidity Risk Premium

Cost of Equity Approaches

1. Comparable Earnings: Return commensurate with those investments in enterprises of comparable risk. Historical Approach.
2. Discounted Cash Flow Method (DCF): Return based on hypothesis that the market price of stock will equal the discounted value (present value) of all future earnings.
   DCF model equation is:
   - $K = (D_1 / P) + g$

Cost of Equity Approaches (Cont'd)

3. Capital Asset Pricing Model (CAPM):
   $K_s = R_F + B (K_m - R_F)$ where
   - K_s = Cost rate on equity capital of the firm
   - R_F = Risk free rate of return
   - K_m = Market rate of return
   - B = Market risk of the stock

   Risk of a portfolio of assets is less than the average of the risks of individual assets.
4. Risk-Premium Approach:
   $K_s = R_F$ + Risk Premium

Bond Rating Agencies

Moody's – Fitch – Standard and Poor's

Non-Financial Criteria	Financial Criteria
Market/Service Territory	Leverage
Fuel Supply	Cash Flow
Operating Efficiency	Earnings Protection
Regulatory Treatment	Financial Flexibility
Management	Accounting Quality
Competition	Construction Spending

Ratings of Michigan's Two Largest Utility Company's

	S&P	Moody's	Fitch
DTE Energy	BBB-	Baa2	BBB
Detroit Edison	BBB+	Baa1	A-
MichCon	BBB	A3	A-
CMS Energy	BB	Ba3	-
Consumers Energy	BBB-	Baa3	BBB-

Questions or Comments

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